CLAIMS

We claim:

1. A sample analysis instrument for use with a fluidic cartridge, said cartridge containing a liquid sample and having a first analysis regions, said apparatus comprising:

a cartridge holder; and

a flow cytometric measuring apparatus positioned to be optically coupled with said analysis region.

2. The instrument of claim 1 wherein said flow cytometric measuring apparatus comprises a light source aligned to illuminate said analysis region and further comprises a photodetector aligned to collect light from said analysis region.

3. The instrument of claim 2 wherein said light collected by said photodetector is scattered light.

4. The instrument of claim 2 wherein said light collected by said photodetector is fluorescent light.

5. The instrument of claim 2 wherein said light source is a laser light source.

6. The instrument of claim 5 wherein said laser light source is aligned upstream from a flow direction of particles in said analysis region so as to direct a beam of light on said particles, said beam of light traveling in a plane defined by the flow direction of said particles.

7. The instrument of claim 6 wherein said photodetector is aligned with respect to said plane so as to intercept a beam of light reflected from said light source by said particles.

8 6. The instrument of claim 1 wherein said cartridge has cartridge alignment markings thereon and wherein said holder has alignment markings thereon to mate with said cartridge alignment markings.

9 7. The instrument of claim 1 wherein said cartridge contains a pump interface and wherein said apparatus further comprises a pump mechanism positioned to couple with said pump interface.

10 8. The instrument of claim 7 (9) wherein said pump interface is a syringe pump interface and wherein said pump mechanism is a syringe pump.

11 9. The instrument of claim 1 wherein said cartridge contains a valve interface and wherein said apparatus further comprises a valve mechanism positioned to couple with said valve interface.

12 10. The instrument of claim 9 (11) wherein said valve interface is a pinch valve interface and wherein said valve mechanism is a pinch valve mechanism.

13 11. The instrument of claim 1 also comprising a second measuring apparatus positioned to be coupled with said second analysis region.

14 12. The instrument of claim 11 (13) wherein said second measuring apparatus comprises absorption measuring apparatus.

15 13. The instrument of claim 11 (13) wherein said second measuring apparatus comprises electrical measuring apparatus.

16 14. The instrument of claim 1 which is disposable.